

CLAIM LISTING

1-3. (Cancelled).

Please add the following claims:

--4. (New) A unified memory system comprising:

a memory that is shared by a plurality of devices including at least a central processing unit and a graphics processing unit; and

a memory request arbiter coupled to the memory, wherein the memory request arbiter performs real time scheduling of memory requests from different devices having different priorities, the unified memory system provides for real time scheduling of tasks, and provides access to memory by requesters that are sensitive to latency and do not have determinable periodic behavior.

5. (New) The unified memory system of claim 4, wherein the central processing unit and the graphics processing unit are sensitive to latency and do not have determinable periodic behavior.

6. (New) The unified memory system of claim 4 wherein a predetermined minimum interval between subsequent accesses by a device is enforced.

7. (New) The unified memory system of claim 4 further comprising a circuit component associated with one or more devices and coupled between the associated devices and the memory request arbiter, wherein the circuit component is used to enforce at least a predetermined minimum interval

between subsequent accesses by the associated device.

8. (New) The unified memory system of claim 7 wherein the devices associated with the circuit component include a CPU.

9. (New) The unified memory system of claim 7 wherein the devices associated with the circuit component make high priority service requests through the circuit component.

10. (New) The unified memory system of claim 7 further comprising a round robin server for handling low priority tasks.

11. (New) The unified memory system of claim 4 further comprising dual memory controllers, the dual memory controllers including a first memory controller and a second memory controller, the memory request arbiter including a first arbiter coupled to the first memory controller and a second arbiter coupled to the second memory controller, wherein the first arbiter and the second arbiter perform real time scheduling of memory requests.--